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Report to the Chairman, Subcommittee
on Toxic Substances, Environmental
Oversight, Research and Development,
Committee on Environment and Public
Works, U.S. Senate

March 1990

LAWN CARE PESTICIDES

Risks Remain
Uncertain While
Prohibited Safety
Claims Continue



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**Resources, Community, and
Economic Development Division**

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March 23, 1990

The Honorable Harry M. Reid
Chairman, Subcommittee on Toxic
Substances, Environmental Oversight,
Research and Development
Committee on Environment and Public
Works
United States Senate

Dear Mr. Chairman:

This report responds to your request for information on protecting the public from exposure to the risk of lawn care pesticides. You asked us to review the information that the lawn care pesticides industry provides to the public about the safety of its products and the federal enforcement actions taken against false and misleading lawn care pesticide safety claims. As requested, we also reviewed the reregistration status of 34 widely used lawn care pesticides to determine what progress had been made in reassessing the long-term health risks associated with their use.

As arranged with your office, unless you publicly announce its contents earlier, we plan no further distribution of this report until 30 days from the date of this letter. At that time, we will send copies to the Administrator, Environmental Protection Agency, and to other interested parties and make copies available to others upon request.

This report was prepared under the direction of Richard L. Hembra, Director, Environmental Protection Issues (202) 275-6111. Major contributors are listed in appendix I.

Sincerely yours,


J. Dexter Peach
Assistant Comptroller General

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Executive Summary

Purpose

The professional lawn care business has developed into a billion dollar industry over the last decade as more and more people have turned to such companies for lawn maintenance. To create beautiful lawns free of weeds and pests, professional lawn care companies rely on chemical pesticides. Many homeowners purchase this service, while others purchase and apply these pesticides themselves. As with most pesticides, these chemicals have the potential to create serious problems affecting human health and the environment. The range of concerns about the risks of pesticides has expanded to include potential chronic health effects, such as cancer and birth defects, and adverse ecological effects. Currently these pesticides are being applied in large amounts without complete knowledge of their safety.

Concerns have been raised about protecting the public from exposure to the risk of lawn care pesticides. As a result, the Chairman, Subcommittee on Toxic Substances, Environmental Oversight, Research and Development, Senate Committee on Environment and Public Works, requested that GAO review the information that the lawn care pesticides industry—manufacturers, distributors, and professional applicators—provides to the public about the safety of its products, federal enforcement actions taken against lawn care pesticide safety advertising claims, and the reregistration status of 34 lawn care pesticides.

Background

Under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), the Environmental Protection Agency (EPA) is required to evaluate the risks and benefits of a proposed pesticide before it is registered for use. More recently, the FIFRA Amendments of 1988 (known as FIFRA '88) imposed mandatory time frames and provided resources to help accelerate the reregistration of older pesticides, including those used in lawn care products. Reregistration is the process of bringing approximately 24,000 registered pesticide products into compliance with current data requirements and scientific standards and taking appropriate regulatory action on the basis of this new knowledge. Last May GAO testified before this Subcommittee on the status of EPA's reregistration program and concluded that EPA had not made substantial progress in reassessing the risks of these pesticides.

FIFRA also authorizes EPA to take enforcement action against advertising claims made by pesticide manufacturers and distributors. This authority, however, does not extend to claims made by professional applicators such as lawn care companies. The Federal Trade Commission (FTC), under its own legislative authority to protect consumers against false

and deceptive advertising, can, however, take enforcement action against professional pesticide applicators as well as manufacturers and distributors.

GAO reported in 1986 that the pesticides industry sometimes makes safety claims for its products that EPA considers to be false and misleading and that EPA had taken few formal enforcement actions against safety claims. GAO concluded that EPA had made limited use of its authority over unacceptable advertising safety claims and recommended that EPA take steps to strengthen and improve its program for regulating such claims.

Results in Brief

GAO found that the lawn pesticides industry continues to make prohibited claims that its products are safe or nontoxic. Such claims are prohibited by FIFRA because they differ substantially from claims allowed to be made as part of the approved registration. EPA considers these claims to be false and misleading. GAO also found that EPA has yet to establish an effective program to determine whether pesticide manufacturers and distributors are, in fact, complying with FIFRA requirements. In addition, EPA does not have authority over safety claims made by professional applicators.

The FTC can act against false and misleading pesticide safety advertising by manufacturers and distributors, but it has taken no enforcement action in this area since 1986. FTC officials told GAO that it prefers to defer to EPA in such matters because of EPA's expertise and legislative authority. FTC has not acted against professional applicator claims because it believes EPA has been handling such claims on an informal basis.

Finally, EPA is still at a preliminary stage in reassessing the risks of lawn care pesticides under its reregistration program, which FIFRA '88 requires to be completed within 9 years. Of the 34 most widely used lawn care pesticides, 32 are older pesticides and subject to reregistration. Not one of these, however, has been completely reassessed.

Principal Findings

Enforcement Actions Not Being Taken on Pesticide Safety Advertising Claims

GAO's review found that EPA and FTC make limited use of their authority over unacceptable safety advertising claims. GAO found the same situation nearly 4 years ago and recommended that EPA take steps to strengthen and improve its program for regulating such claims. Neither EPA nor FTC is taking formal enforcement action against safety claims by manufacturers and distributors. Since 1986 EPA has taken only one formal enforcement action involving a lawn care pesticide safety claim made by a manufacturer, while FTC has taken no enforcement action in this area. EPA officials told GAO that safety advertising claims are still a low enforcement priority because of limited resources and because other violations such as pesticide misuse continue to be its primary concern. FTC believes EPA is better able to handle pesticide safety claims because of its technical expertise and legislative authority.

FTC has not acted against claims by professional pesticide applicators, over which EPA has no authority, because it believes EPA has been successfully handling applicator claims informally through its regional offices. Although EPA and FTC officials have discussed GAO's 1986 recommendation, no formal arrangement has been made to ensure that questionable applicator claims would be given appropriate attention.

The lawn care pesticides industry is making claims that its products are safe or nontoxic. GAO's review found nine instances of safety claims, such as "completely safe for humans," made by manufacturers, distributors, and professional applicators. EPA, using its standards for pesticide labels, considers that these claims, when made by manufacturers and distributors, are false and misleading. Such claims are prohibited by FIFRA because they differ substantially from claims allowed to be made as part of the approved registration. GAO believes that without an effective federal enforcement program, the lawn care pesticides industry will continue to make such claims that could, among other things, persuade consumers to purchase a service they otherwise might not use or discourage the use of reasonable precautions to minimize exposure, such as avoiding recently treated areas.

Health Risks of Lawn Care Pesticides Have Not Been Fully Reassessed

GAO's review of the reregistration status of 34 major lawn care pesticides determined that EPA is still at a preliminary stage in reassessing the risks of lawn pesticides and has not completely reassessed the health risks of any of the major lawn care pesticides subject to reregistration. While EPA has made some progress in identifying the data needs and conditions of reregistration for many of these pesticides, uncertainties about their health risks still exist. For the two most frequently used lawn pesticides—diazinon and 2,4-D—EPA identified concerns about possible health effects associated with their use. No final determination has been made as to whether these concerns warrant any further regulatory action.

Until EPA completes its reassessments and takes appropriate regulatory action, the public's health may be at risk from exposure to these pesticides. GAO believes that while the 1988 FIFRA Amendments can help accelerate the reregistration process, reregistering pesticide products and reassessing their risks remain formidable tasks.

Recommendations

Because EPA does not have authority over professional pesticide applicator claims, and since FTC, which has this authority, prefers to defer to EPA because of its technical expertise, GAO recommends that the Administrator, EPA, seek, in cooperation with appropriate congressional committees, legislative authority over safety claims by professional pesticide applicators.

In order to protect the public from prohibited pesticide safety claims, GAO recommends that the Administrator, EPA, develop an enforcement strategy for monitoring lawn pesticide industry compliance with FIFRA section 12(a)(1)(B) that will make better use of EPA resources.

Agency Comments

GAO discussed the factual information contained in a draft of this report with responsible EPA and FTC officials. These officials agreed with the facts presented, and their views have been incorporated into the report where appropriate. As requested, GAO did not obtain official agency comments on the report.

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Abbreviations

EPA	Environmental Protection Agency
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act
FTC	Federal Trade Commission
GAO	General Accounting Office
OCM	Office of Compliance Monitoring
OPP	Office of Pesticide Programs
RCED	Resources, Community, and Economic Development Division

Introduction

Lawn care pesticides, such as herbicides, insecticides, fungicides, and rodenticides, are chemicals or biological substances designed to kill and control living organisms—unwanted species of plants, insects, and animals. They are used in places where people live, work, play, or otherwise frequent as part of their daily lives. They are used in gardens, parks, and on lawns and golf courses. Because lawn care pesticides are designed to destroy or control living organisms, exposure to them can be hazardous.

According to 1988 estimates provided by the Environmental Protection Agency (EPA), lawn care pesticides constitute a large and growing market. Sales of lawn care pesticides in the United States have increased to over \$700 million annually and result in about 67 million pounds of active ingredients being applied. Lawn care pesticides account for about 8 percent of the 814 million pounds of active ingredients applied for agricultural purposes.

The lawn care service industry also is a big business. It has experienced unprecedented growth in the last decade, and the demand for these services is still growing. EPA estimates that professional lawn care companies, treating mostly residential lawns, do a \$1.5 billion annual business and that as many as 11 percent of single family households use a commercial applicator.

Federal Enforcement of Pesticide Safety Advertising Claims

In our report to this same Subcommittee nearly 4 years ago, entitled Nonagricultural Pesticides: Risks and Regulation (GAO/RCED-86-07, April 18, 1986), we determined that the pesticide industry sometimes makes safety claims for its products that EPA considers to be false or misleading. We found that the general public receives misleading information on pesticide hazards and that EPA had taken few civil penalty enforcement actions against such claims. We concluded that EPA had made limited use of its authority over unacceptable advertising safety claims and recommended that it take steps to strengthen and improve its program for controlling such claims. EPA has taken few corrective actions since 1986.

EPA has authority under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) to take enforcement action against false and misleading advertising claims made by pesticide manufacturers and distributors. Specifically, FIFRA section 12(a)(1)(B) prohibits claims made as part of a pesticide's distribution and sale that differ substantially from claims made as part of a pesticide's registration application.

Section 12(a)(1)(B) applies only to the distributors and sellers of pesticides, not to the users, such as professional applicators who provide a service of controlling pests without delivering any unapplied pesticide. Thus, EPA has no enforcement authority over product safety claims made by pesticide applicators, even though they sometimes make claims that would be subject to enforcement action if made by a pesticide distributor.

The Federal Trade Commission (FTC), under its own legislative authority to protect consumers against false and deceptive advertising, can take enforcement action against pesticide applicators as well as manufacturers and distributors. FTC considers a pesticide advertisement to be deceptive if it contains a material representation or omission that is likely to mislead consumers acting reasonably under the circumstances. To determine whether an advertisement is deceptive, FTC looks to the net impression created by the advertisement as a whole, rather than individual statements in isolation. In determining what constitutes a reasonable basis in a particular case, FTC considers a number of factors relevant to the costs and benefits of substantiating the claims at issue. FTC also considers an advertisement to be illegal if it is unfair.

We determined in 1986, however, that FTC seldom used its enforcement authority because it believed that EPA was better able to deal with pesticide safety claims. We recommended that EPA and FTC seek an arrangement for controlling claims by professional pesticide applicators. Although EPA and FTC officials have discussed our recommendation, no formal arrangement has been made to ensure that questionable applicator claims would be given appropriate attention.

Health Risks of Pesticides Must Be Reassessed for Reregistration

We also reported in 1986 on EPA's lack of progress in reassessing the long-term (chronic) health risks associated with the use of nonagricultural pesticides. We concluded that there is considerable uncertainty about the potential for these pesticides to cause chronic health effects, such as cancer and birth defects, and that reassessing the health risks of using these pesticides as part of the reregistration process may take a long time. Further, we stated last May, in testimony before this same Subcommittee on Toxic Substances, Environmental Oversight, Research and Development, Senate Committee on Environment and Public Works, that EPA still had much work to do in reassessing the risks of older pesticides subject to reregistration and had not completely reassessed any of these pesticides.

Reregistration is the process of bringing the registrations of about 24,000 pesticide products into compliance with current data requirements and scientific standards and taking appropriate regulatory action on the basis of this new knowledge. FIFRA '88 imposes mandatory time frames requiring EPA to complete this process over approximately a 9-year period.

Objectives, Scope, and Methodology

The Chairman, Subcommittee on Toxic Substances, Environmental Oversight, Research and Development, Senate Committee on Environment and Public Works, asked us to review the information the lawn pesticides industry—manufacturers, distributors, and professional applicators—provides to the public about the safety of its products. The objectives of our review were to determine

- EPA enforcement actions taken against unacceptable lawn care pesticide safety advertising claims since 1986 and whether such claims were still being made and
- the current reregistration status of 34 widely used lawn care pesticides to show what progress has been made in reassessing their health effects.

Chapter 2 addresses our first objective dealing with the enforcement of pesticide safety advertising claims, and chapter 3 addresses the reregistration status of widely used lawn pesticides.

To determine the number and nature of EPA's enforcement actions against pesticide safety advertising claims, we met with EPA headquarters officials in the Office of Compliance Monitoring (OCM). We also contacted FTC officials for the number and nature of its enforcement actions in this area. We did not, however, contact state agencies nor EPA and FTC regional offices to obtain data on actions taken by them due to time constraints. However, we did ask EPA and FTC headquarters about their regional office activities.

To determine whether pesticide safety claims are still being made by lawn care pesticide manufacturers and distributors, we reviewed pesticide advertisements in magazines directed at gardeners, farmers, and other groups likely to use lawn care pesticide products. To obtain safety information provided to the public by professional applicators we telephoned 21 companies who service the Washington, D.C., metropolitan area (including Maryland and Virginia) and asked for literature about the safety of the pesticide products they use. We asked EPA's Office of Pesticide Programs to review the pesticide safety advertisements and

literature we obtained to determine whether they would be considered false or misleading under EPA's pesticide labeling regulations.

To determine the current reregistration status of lawn care pesticides, we focused on 34 pesticides that EPA identified as representing those most widely used for lawn care purposes. We identified those that had registration standards issued for them by matching the 34 pesticides against EPA's Federal Register notices that classified them into four categories—list A (registration standards issued) and lists B, C, and D (no registration standards issued). Any discrepancies or mismatches were discussed with an official in EPA's Office of Pesticide Programs (OPP). We also obtained 1988 and 1989 lawn care pesticide usage data from OPP's Economic Analysis Branch.

To determine which of the 34 pesticides were subject to EPA's Special Review process, we reviewed EPA's December 1989 report on the status of Special Review pesticides. We also reviewed the latest Federal Register notices on the Special Review pesticides.

Our work was conducted between December 1989 and February 1990 in accordance with generally accepted government auditing standards. We discussed the matters contained in this report with EPA and FTC officials. These officials agreed with the facts presented, and their views have been incorporated into the report where appropriate. As requested, we did not obtain official agency comments on the report.

Enforcement Actions Not Being Taken on Pesticide Safety Advertising Claims

EPA has taken only one civil penalty enforcement action against false or misleading lawn pesticide safety advertising claims made by manufacturers and distributors during the 3-year period we reviewed for this report. According to EPA's Compliance Division Director, advertising safety claims are still a low enforcement priority because of limited resources and because other violations such as pesticide misuse continue to be the Agency's primary enforcement concerns in the pesticide area. EPA does not have an active program to screen pesticide literature nor an enforcement strategy to monitor compliance but reacts to complaints it receives.

FTC can act against false and misleading lawn pesticide safety advertising, but it has taken no enforcement action in this area since 1986. FTC officials told us that it prefers to defer to EPA in such matters because of EPA's expertise and legislative authority.

Meanwhile, lawn care pesticide manufacturers and distributors are still making claims that their products are safe or nontoxic. EPA, using its standards for pesticide labels, considers that these claims are false and misleading. Such claims are prohibited by FIFRA because they differ substantially from claims allowed to be made as part of the approved registration. We reported in 1986 that neither EPA nor FTC was taking action against safety claims by professional pesticide applicators. In 1990, we again find that neither agency has an effective program to determine whether pesticide applicators are making safety claims about the products they use.

EPA's Enforcement Activities

EPA has several enforcement alternatives provided by FIFRA for false and misleading advertising claims, including civil penalties of not more than \$5,000 and criminal penalties of not more than \$50,000 and/or 1 year in prison. In addition, EPA can confiscate a pesticide. Generally, EPA's first action against an improper advertising claim is an advertising letter, according to its FIFRA compliance and enforcement manual. In an advertising letter, EPA notifies a company that its literature contains unacceptable statements and asks the company to respond in writing, explaining the action it plans to take. Depending on the circumstances and the company's response, EPA may then take formal enforcement action.

EPA has taken few formal enforcement actions against unacceptable pesticide safety advertising claims since our 1986 report was issued. EPA's Office of Compliance Monitoring data show that between October 1, 1986, and September 30, 1989, EPA took 17 civil penalty enforcement

actions, other than advertising letters, under FIFRA section 12(a)(1)(B). Only one of these actions involved a lawn pesticide safety claim. Most of the others involved health claims for disinfectants (a class of pesticides) and claims for uses other than a product's registered uses. In comparison, we reported in 1986 that EPA took 18 civil penalty enforcement actions between January 1, 1984, and July 30, 1985—a period of 19 months.

According to OCM's Compliance Division Director, pesticide safety advertising claims have been and continue to be a low priority for OCM because of its limited resources and because other unlawful acts under FIFRA, such as pesticide misuse, are OCM's primary concerns. For example, EPA provided data that showed that between October 1, 1986, and September 30, 1989, it took a total of 1,015 enforcement actions under FIFRA section 12. The 17 actions taken against unacceptable pesticide claims under FIFRA section 12(a)(1)(B) accounted for less than 2 percent of the total.

In addition, OCM does not have an active program to screen pesticide literature nor an enforcement strategy to make better use of its limited resources and ensure proper attention to unacceptable claims. According to the Compliance Division Director, OCM's decisions to take enforcement action against unacceptable pesticide claims are being made on a case-by-case basis as situations are brought to its attention.

FTC's Enforcement Activities

FTC has authority under its own legislation to take several types of actions against persons who make deceptive pesticide safety claims. It can, among other things, (1) issue cease and desist orders; (2) seek civil penalties in the federal courts of up to \$10,000 for each violation of a cease and desist order; and (3) seek, in the federal courts, temporary restraining orders, injunctions, or redress for consumers.

FTC rarely initiates action against pesticide advertising claims. In 1986, its Program Advisor for General Advertising (which includes pesticide advertising) could recall only about three pesticide actions within 10 years or so. Since 1986, FTC has initiated 11 pesticide-related investigations, most of which involved efficacy (effectiveness) claims. None, however, involved a lawn pesticide safety claim.

According to FTC's Associate Director, Division of Advertising Practices, while FTC is still concerned about deceptive pesticide safety claims, it prefers to defer to EPA in this area because of EPA's specific statutory

authority and technical expertise. EPA has no authority over applicator claims under FIFRA, and although FTC believes that FIFRA does not limit FTC's authority over applicator claims, it has not yet taken any action against an applicator. Soon after we issued our April 1986 report, EPA's Compliance Division Director informed FTC that applicator claims were routinely referred to appropriate EPA regional offices for action. Such action usually took the form of an advertising letter. FTC was told by EPA that in almost all cases applicators voluntarily altered or agreed to discontinue making the challenged claims. OCM officials could not tell us whether pesticide claims referred to EPA regional offices since 1986 involved any applicator claims.

We recommended in 1986 that the Administrator seek an arrangement between EPA and FTC for controlling unacceptable safety claims by professional pesticide applicators. FTC officials subsequently met with EPA officials to discuss pesticide advertising issues generally and whether EPA was aware of specific applicator claims that should be investigated. However, no formal arrangement has been made to ensure that questionable applicator claims will be given appropriate attention. In February 1990, EPA and FTC again met to discuss procedures and plans for referral of pesticide advertising cases between the two agencies.

Besides taking action under FIFRA, EPA can refer improper advertising claims to FTC. EPA's Office of Compliance Monitoring could not tell us how many cases EPA had referred to FTC for enforcement action since 1986, explaining that the Compliance Division did not keep records of referrals. FTC's Associate Director for Advertising Practices could recall only one case—which involved an efficacy claim—and while he believes there may have been referrals at the regional office level, he had no available data on these cases.

Misleading Safety Claims Made by the Lawn Pesticides Industry

To determine what safety information professional pesticide applicators provide to potential customers, we telephoned 21 lawn care companies in the Washington, D.C., metropolitan area (including Maryland and Virginia), requesting information and literature about the safety of their products. Additional calls were made to determine the types of pesticides these companies commonly use. We identified ourselves as private citizens, rather than as GAO representatives, to ensure that we obtained the same information normally provided to individuals who express concern about pesticide safety.

Of the 21 companies we contacted, representatives of 17 said they would send information about the safety of their pesticide products. We received literature from only 10 of these companies, however, and only 2 of these made statements about the safety or nontoxicity of the products they use.

The lawn care company representatives we talked to provided a variety of responses when asked about the effects of their products on humans, animal, and environmental health. Several representatives said they were aware of the concerns surrounding pesticide use and described the measures they take as a result. One company representative, for example, said his company did not use the pesticide diazinon because it was too toxic. Another said his company used pesticides only when necessary.

Many of the representatives we talked to, however, made statements that their products are safe or nontoxic. These statements included the following:

- "Our products are practically nontoxic; no one gets sick."
- "All [of] our products are legal and registered at EPA as practically nontoxic."
- "The only way to be affected by [the pesticide] 2,4-D would be to lay [sic] in it for a few days."
- "The safety issue has been blown out of proportion. Such a small amount of chemicals are put down directly on plants . . . [They do] not affect animals or people."
- "All chemicals [used] are nontoxic."
- "Dogs may get a rash or irritated [from diazinon], but they will only feel a little itchy. This is the same reaction the applicator gets when the pesticide touches their [sic] skin."

To determine whether prohibited safety claims were still being made by lawn pesticide manufacturers and distributors, we reviewed a total of 18 different magazines—generally two or three issues of each—looking for pesticide advertisements discussing product safety. Although many of the magazines we examined did not contain pesticide advertisements, we found, in five of them seven instances of pesticide safety claims. One magazine had advertisements discussing pesticide safety in each of the three issues we reviewed.

Generally, we found that the safety advertising information provided by lawn pesticide manufacturers and distributors focused on assurances

that pesticide products are safe or nontoxic. Table 2.1 presents examples of the health and safety information we found. The table also includes safety statements found in two lawn care company brochures.

Table 2.1: Examples of Health and Safety Information Provided by Lawn Care Pesticide Manufacturers, Distributors, and Professional Applicators

Pesticide/active ingredient ^a	Source of information	Manufacturer/distributor/applicator claims
Iprodione(F) (Rovral)	<u>The Grower</u>	"... is safe to use. It won't harm flowers, foliage, or fruit. There's no danger to honeybees or other beneficial insects. And [this product] is safe to applicators...."
Arsenal(H)	<u>Forest Farmer</u>	"... is environmentally sound when used according to label directions."
LARVO-BT(I)	<u>Farm Chemicals</u>	"Non-Toxic: completely safe for humans, the environment, and beneficial insects."
Dicamba(H) Diazinon(I) Chlorpyrifos(I) (Dursban) Carbaryl(I) (Liquid Sevin) Isofenphos(I) (Oftanol) Pendimethalin(H)	ChemLawn Services Corporation customer brochure ^b	"... applications are selectively toxic to weeds and insects; a child would have to swallow the amount of pesticide found in almost 10 cups of treated lawn clippings to equal the toxicity of one baby aspirin."
Safer Insecticide Concentrate	<u>The Grower</u>	"... is easy for workers to mix, handle, and apply without undue concern about exposure."
Methoxychlor (Marlate)	<u>Farm Chemicals Handbook</u>	"The least toxic to humans and animals of all the major pesticides...."
Benfluralin(H) (TEAM) Chlorpyrifos(I) (Dursban) Isofenphos(I) (Oftanol) (Trimec)(H)	Lawn Doctor Inc. customer brochure ^b	"End use lawn care material is classified as practically non-toxic to humans, pets, and the environment."

Notes:

The letters following each active ingredient stand for the following: (F) — fungicide, (H) — herbicide, and (I) —insecticide.

^aInformation following active ingredient in parentheses is the pesticide trade name.

^bActive ingredients were obtained from lawn care companies over the telephone.

Problems With Advertising Claims

OPP Registration Division officials, using standards for pesticide labels, consider that the advertising claims shown in table 2.1 are false and misleading when made by manufacturers and distributors. Such claims are prohibited by FIFRA because they differ substantially from claims allowed to be made as part of the approved registration. Although EPA

has not established formal criteria for determining precisely under what circumstances pesticide advertising claims are unacceptable under FIFRA section 12(a)(1)(B), OPP's Registration Division policy is that any claim that is unacceptable for a pesticide label is also unacceptable in advertising. FIFRA prohibits pesticide labels from bearing any statement, design, or graphic representation that is false or misleading. EPA's implementing regulations prohibit the following kinds of health and safety claims on pesticide labels on the basis that they are false and misleading:

- any statement directly or indirectly implying that the pesticide is recommended or endorsed by any federal agency;
- a true statement used in such a way as to give a false or misleading impression to the purchaser;
- claims as to the safety of the pesticide or its ingredients, including statements such as "safe," "nonpoisonous," "harmless" or "nontoxic to humans and pets," with or without a qualifying phrase such as "when used as directed;" and
- non-numerical or comparative statements on the safety of the product, including but not limited to: "contains all natural ingredients," "among the least toxic chemicals known," and "pollution approved."

EPA also considers the following phrases to be false and misleading under its existing criteria:

- "approved by" any agency of the federal government and
- "low in toxicity," "will not harm beneficial insects," "no health hazard," and "ecologically compatible."

EPA's labeling prohibitions are based on its repeatedly stated position that no pesticide is "safe" because pesticides are, by their very nature, designed to be biologically active and kill various kinds of organisms. Further, an OPP Registration Division official said that labeling statements that convey the impression of safety could lead users to believe that directions and caution statements are not important.

EPA Initiatives

Since our 1986 report, EPA has taken several initiatives intended to clarify its enforcement authority under FIFRA for pesticide advertising. In 1986 EPA addressed the issue of advertising claims for disinfectant pesticides, and in 1989 it addressed the issue of advertising unregistered uses of a pesticide. In 1987 EPA initiated action to develop a regulation for facilitating enforcement of FIFRA section 12(a)(1)(B). Expected to be

finalized sometime in July/August 1990, this regulation intends to (1) state EPA's established authority to take enforcement action against unacceptable advertising claims for registered pesticide products and (2) establish standards with respect to which types of claims are unacceptable.

In addition, EPA believes that given its limited enforcement resources, educating homeowners regarding the risks of pesticide use and providing them alternative approaches to lawn care may be more effective than monitoring and enforcing pesticide safety claims. Among other efforts in this regard, EPA is developing an integrated pest management approach to lawn care and has a question-and-answer publication prepared in response to public concerns.

Conclusions

EPA has taken 17 pesticide-related actions since 1986, only 1 of which involved a lawn pesticide safety claim. We reported in 1986 that EPA took 18 pesticide-related actions between January 1, 1984, and July 30, 1985—a period of 19 months. Thus, current enforcement activities indicate that reviewing and enforcing pesticide advertising receives less EPA attention now than before.

As we concluded in our 1986 report, EPA needs to make a stronger effort to prevent pesticide manufacturers and distributors from disseminating misleading safety information. In this regard, EPA has initiated a project to, among other things, establish standards for identifying unacceptable pesticide safety claims. Although this is a step in the right direction, we believe EPA needs to develop an enforcement strategy for monitoring industry compliance with section 12(a)(1)(B) that would help target its limited resources to the greatest potential problem areas and establish time frames to measure progress. Now, EPA enforces compliance on a case-by-case basis as a situation is brought to its attention.

In the interim, manufacturers and distributors continue to make safety claims in their advertising that could discourage users from following label directions and precautionary statements. EPA, using its standards for pesticide labels, considers that such claims are false and misleading. Such claims are prohibited by FIFRA because they differ substantially from claims allowed to be made as part of the approved registration. Professional pesticide applicators are also making claims that could lead consumers to believe that the pesticides applied around their homes are safe or nontoxic. Furthermore, such claims may persuade consumers to purchase a service they otherwise might not use or discourage the use of

reasonable precautions to minimize exposure, such as avoiding recently treated areas.

EPA does not have authority over claims by professional pesticide applicators. On the other hand, FTC, which has legislative authority, believes that EPA has been successfully handling such claims through informal actions taken by appropriate EPA regional offices. Because neither agency is acting against safety claims by pesticide applicators and because FTC prefers to defer to EPA for action in this area, we believe that EPA needs to seek authority under FIFRA for regulating such claims.

Recommendations to the Administrator, EPA

Because EPA does not have authority over pesticide applicator claims, and since FTC, which has this authority, prefers to defer to EPA because of its technical expertise, we recommend that the Administrator, EPA, seek, in cooperation with appropriate congressional committees, legislative authority over safety claims by professional pesticide applicators.

In order to protect the public from prohibited pesticide safety claims, we recommend that the Administrator, EPA, develop an enforcement strategy for monitoring lawn pesticide industry compliance with FIFRA section 12(a)(1)(B) that will make better use of EPA resources.

Health Risks of Lawn Care Pesticides Have Not Been Fully Reassessed

Despite progress, EPA is still at a preliminary stage in reassessing all of the risks of pesticides, including lawn care pesticides. Of the 34 most widely used lawn care pesticides, 32 are older pesticides and subject to reregistration; however, not one of these has been completely reassessed. Until EPA completes its reassessments as part of the reregistration process, the public may be at risk from exposure to potentially hazardous lawn care pesticides.

Reregistration Status of 34 Major Lawn Care Pesticides

Our 1986 report contained a list of 50 pesticides widely used in nonagricultural products. We concluded that the health risks associated with their use were uncertain and that until EPA completed its reassessments as part of the reregistration process, the public would continue to be exposed to these pesticides.

As part of our follow-up work, we planned to update the reregistration status of the 50 pesticides to determine what progress EPA had made in assessing their health risks. We found, however, after reviewing them with EPA officials, that many did not have major lawn care uses. Thus, for our follow-up work, we used a list of 34 pesticides that EPA identified as currently representing those most widely used for lawn care purposes. Most of these major lawn pesticides are also used on food or feed crops; therefore, FIFRA requires that EPA give priority to reregistering these pesticides.

Table 3.1 shows the reregistration status of each of the 34 major lawn pesticides. Two are not subject to reregistration because they are newer pesticides subject to current registration standards. Of the remaining 32 pesticides, none has been completely reassessed: 23 have been issued an interim registration standard, while 9 have yet to be evaluated in terms of their data needs and conditions of reregistration. (A registration standard describes all the data available on a particular pesticide, identifies data that are missing or inadequate, addresses regulatory and scientific issues for which sufficient data exist, and sets forth the conditions that pesticide products affected by the standard must meet to obtain or keep their registrations.)

Chapter 3
Health Risks of Lawn Care Pesticides Have
Not Been Fully Reassessed

**Table 3.1: EPA's List of 34 Major Lawn
Care Pesticides and Their Reregistration
Status**

Pesticide	Type	Interim Registration Standard as of December 24, 1988
2,4-D (2,4-dichlorophenoxyacetic acid)	Herbicide	YES
Acephate	Insecticide	YES
Atrazine	Herbicide	YES
Balan	Herbicide	NO
Bayleton	Fungicide	NO
Bendiocarb	Insecticide	YES
Benomyl	Fungicide	YES
Betasan	Herbicide	NO
Carbaryl	Insecticide	YES
Chlorothalonil	Fungicide	YES
Chlorpyrifos	Insecticide	YES
DDVP (dichlorvos)	Insecticide	YES
DSMA (disodium methanearsonate)	Herbicide	NO
Dacthal	Herbicide	YES
Diazinon	Insecticide	YES
Dicamba	Herbicide	YES
Diphenamid	Fungicide	YES
Endothall	Herbicide	NO
Glyphosate	Herbicide	YES
Isoxaben	Herbicide	^a
MCPA (2-methyl-4-chlorophenoxyacetic acid)	Herbicide	YES
MCPP (potassium salt)	Herbicide	YES
MSMA (monosodium methanearsonate)	Herbicide	NO
Malathion	Insecticide	YES
Maneb	Fungicide	YES
Methoxychlor	Insecticide	YES
Oftanol	Insecticide	NO
PCNB (pentachloronitrobenzene)	Fungicide	YES
Pronamide	Herbicide	YES
Siduron	Herbicide	NO
Sulfur	Fungicide	YES
Trichlorfon	Insecticide	YES
Triumph	Insecticide	^a
Ziram	Fungicide	NO

^aPesticide was registered after November 1, 1984; therefore, reregistration is not required.

Source: GAO analysis of EPA data.

Health and Environmental Concerns Associated With Lawn Care Pesticides

Table 3.2: Status of Lawn Care Pesticides in the Special Review Process as of December 1989

Table 3.2 shows 6 of the 32 pesticides that have also undergone Special Review because of concerns about their chronic health and environmental effects, which surfaced after their registration. These concerns range from cancer to wildlife hazards. Two of the pesticides, diazinon and 2,4-D, have been determined to be the most widely used pesticides for residential lawn care. In fact, of the 13 responses received from the lawn care companies we contacted, 7 indicated that diazinon is used and 6 indicated that 2,4-D is used.

Pesticide	Chronic health and environmental concerns	Special Review status
2,4-D	Carcinogenicity	Preliminary notification ^a
DDVP (dichlorvos)	Oncogenicity	Special Review in process ^b
Maneb (EBDC)	Oncogenicity Teratogenicity	Special Review in process ^c
Benzomyl	Mutagenicity Teratogenicity Reproductive effects Wildlife hazard	Special Review completed ^d
Pronamide	Oncogenicity	Special Review completed ^e
Diazinon	Avian Hazard	Special Review completed ^f

^aEPA's concerns have not been fully resolved. A decision whether to place 2,4-D in Special Review because of possible cancer risks will not be made until late summer 1990 upon completion and review of two epidemiological studies.

^bEPA will reassess carcinogenic potential when additional oncogenicity data are received.

^cEPA announced a preliminary determination to cancel most of the food crop uses of maneb.

^dEPA requires use of cloth or commercially available disposable dust masks by mixers/loaders of benzomyl intended for aerial application and requires field monitoring studies to identify residues that may enter aquatic sites after use on rice.

^eEPA cancelled some product registrations, modified labeling, and revised the residue tolerance for application on lettuce.

^fEPA cancelled sod farm and golf course uses. An appeals court suspended EPA's decision. EPA is reviewing its cancellation decision and the court's reasoning for its suspension of EPA's decision.
Source: GAO analysis of EPA data.

EPA subjected the insecticide diazinon to Special Review when it found that diazinon was killing waterfowl and other bird species. As a result, EPA cancelled uses of diazinon on golf courses and sod farms, although bird poisonings on residential lawns and in corn and alfalfa fields have also been reported.

Due to the number of homeowner poisoning incidents, EPA's registration standard imposed labeling requirements in order to provide additional use and safety information to the homeowner. EPA has also restricted

diazinon's commercial outdoor uses (e.g., uses on agricultural crops, ornamentals, and turf) to certified applicators or persons under their direct supervision, because of diazinon's avian and aquatic toxicity. However, this restriction does not apply to commercial lawn care companies and homeowners.

Although EPA has called for additional data with regard to diazinon's effects on human health, until these data have been received, diazinon's use on lawns raises uncertainties about its risks to humans. Diazinon is used to control a variety of insects found around farms and nurseries, around commercial establishments such as restaurants, and around homes and gardens. Diazinon, in fact, is the most widely used pesticide on residential lawns. According to 1989 EPA estimates, about 6 million pounds of diazinon are used annually on home lawns and commercial turf and, prior to cancellation, over a half-million pounds had been used on golf courses and sod farms.

Regarding 2,4-D, EPA issued a preliminary notification of Special Review in September 1986 based on evidence of increased cancer risk among farmers handling similar types of herbicides. Based on further review, EPA concluded that available human evidence and other data were inadequate to assess the potential cancer risk of 2,4-D and proposed not to initiate a Special Review of the chemical. EPA's concerns regarding the effects of 2,4-D have not been fully resolved, however, and the decision whether to place 2,4-D in Special Review because of possible cancer risk will not be made until late summer 1990 upon completion and review of two epidemiological studies. Further, as part of 2,4-D's registration standard, EPA has called for additional laboratory testing for birth defects and other potential long-term effects. These tests may require as many as 50 months to complete.

An ingredient in more than 1,500 pesticide products, 2,4-D is a weed killer that has been used extensively by farmers and home gardeners for over 40 years. About 60 million pounds of 2,4-D are used annually in the United States, primarily by wheat and corn farmers. Almost 4 million pounds are used annually on residential lawns.

EPA Initiatives

Because of increased public concern about the safety and misuse of lawn care pesticides, EPA re-examined its data requirements for these types of pesticides through a work group formed in November 1987. Although the work group proposed additional data requirements for determining health hazards likely to arise from repeated exposure to treated lawns,

no decision had been made to require these data for all lawn care pesticides as of March 1990.

onclusions

EPA has not completely reassessed the health risks of any of the major lawn care pesticides subject to reregistration. While EPA has made some progress in identifying the data needs and conditions of reregistration for 23 of these pesticides, uncertainties about health risks still exist. For the two most frequently used lawn pesticides—diazinon and 2,4-D—EPA identified certain health risks associated with their use based on available data. However, EPA has called for additional data that may require as many as 50 months to obtain in order to complete these risk assessments. Thus, uncertainties about the risks of these, not to mention the other 30, major lawn care pesticides will remain until EPA receives all required data and completes all product reregistration actions.

As we testified last May, the expeditious reregistration of pesticides is paramount to reducing the uncertainty surrounding their risks. We stated, however, that while EPA had made some progress in this regard, it still had much work to do. Based on our testimony and follow-up work, we continue to believe that while FIFRA '88 can help accelerate the reregistration process, reregistering pesticide products and reassessing their risks remain formidable tasks. In the interim, the general public's health may be at risk from exposure to these chemicals until EPA's reassessments are performed and regulatory action has been taken.

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